

**KO-Validated Anti-GAPDH Mouse Monoclonal Antibody**  
**Mouse monoclonal antibody**  
**Catalog # AGI2424****Specification****KO-Validated Anti-GAPDH Mouse Monoclonal Antibody - Product Information**

|                   |                                                                                                                                                                                                                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application       | WB, FC                                                                                                                                                                                                                                                                                                       |
| Primary Accession | <a href="#">P04406</a>                                                                                                                                                                                                                                                                                       |
| Reactivity        | Rat, Human, Mouse                                                                                                                                                                                                                                                                                            |
| Clonality         | Monoclonal                                                                                                                                                                                                                                                                                                   |
| Isotype           | Mouse IgG                                                                                                                                                                                                                                                                                                    |
| Calculated MW     | Predicted, 36 kDa; observed, 36 kDa KDa                                                                                                                                                                                                                                                                      |
| Gene Name         | GAPDH                                                                                                                                                                                                                                                                                                        |
| Aliases           | GAPDH; Glyceraldehyde-3-Phosphate Dehydrogenase; GAPD; Peptidyl-Cysteine S-Nitrosylase GAPDH; EC 1.2.1.12; Epididymis Secretory Sperm Binding Protein Li 162eP; Oct1 Coactivator In S Phase, 38 Kd Component; Aging-Associated Gene 9 Protein; OCAS, P38 Component; HEL-S-162eP; EC 2.6.99.-; EC 1.2.1; G3PD |
| Immunogen         | A synthesized peptide derived from human GAPDH                                                                                                                                                                                                                                                               |

**KO-Validated Anti-GAPDH Mouse Monoclonal Antibody - Additional Information**

|                                                                                                                                                                            |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Gene ID                                                                                                                                                                    | 2597 |
| <b>Other Names</b>                                                                                                                                                         |      |
| Glyceraldehyde-3-phosphate dehydrogenase, GAPDH, 1.2.1.12, Peptidyl-cysteine S-nitrosylase GAPDH, 2.6.99.-, GAPDH {ECO:0000303 PubMed:2987855, ECO:0000312 HGNC:HGNC:4141} |      |

**KO-Validated Anti-GAPDH Mouse Monoclonal Antibody - Protein Information**

**Name** GAPDH {ECO:0000303|PubMed:2987855, ECO:0000312|HGNC:HGNC:4141}

**Function**

Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively (PubMed:<a href="http://www.uniprot.org/citations/11724794" target="\_blank">11724794</a>, PubMed:<a href="http://www.uniprot.org/citations/3170585" target="\_blank">3170585</a>). Glyceraldehyde-3-phosphate dehydrogenase is a key enzyme in glycolysis that catalyzes the first step of the pathway by converting D- glyceraldehyde 3-phosphate (G3P) into 3-phospho-D-glyceroyl phosphate (PubMed:<a href="http://www.uniprot.org/citations/11724794" target="\_blank">11724794</a>, PubMed:<a href="http://www.uniprot.org/citations/3170585" target="\_blank">3170585</a>). Modulates the organization and assembly of the cytoskeleton (By similarity). Facilitates the CHP1- dependent microtubule and membrane associations through its ability to stimulate the binding of CHP1 to microtubules (By similarity). Component of the GAIT

(gamma interferon-activated inhibitor of translation) complex which mediates interferon-gamma-induced transcript-selective translation inhibition in inflammation processes (PubMed:<a href="http://www.uniprot.org/citations/23071094" target="\_blank">23071094</a>). Upon interferon-gamma treatment assembles into the GAIT complex which binds to stem loop-containing GAIT elements in the 3'-UTR of diverse inflammatory mRNAs (such as ceruplasmin) and suppresses their translation (PubMed:<a href="http://www.uniprot.org/citations/23071094" target="\_blank">23071094</a>). Also plays a role in innate immunity by promoting TNF-induced NF-kappa-B activation and type I interferon production, via interaction with TRAF2 and TRAF3, respectively (PubMed:<a href="http://www.uniprot.org/citations/23332158" target="\_blank">23332158</a>, PubMed:<a href="http://www.uniprot.org/citations/27387501" target="\_blank">27387501</a>). Participates in nuclear events including transcription, RNA transport, DNA replication and apoptosis (By similarity). Nuclear functions are probably due to the nitrosylase activity that mediates cysteine S-nitrosylation of nuclear target proteins such as SIRT1, HDAC2 and PRKDC (By similarity).

### Cellular Location

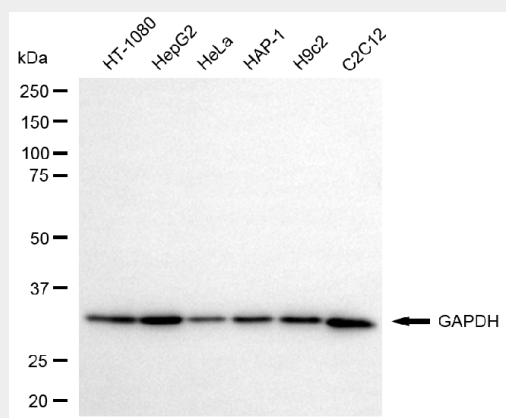
Cytoplasm, cytosol. Nucleus {ECO:0000250|UniProtKB:P04797}. Cytoplasm, perinuclear region. Membrane Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P04797} Note=Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity). Postnuclear and Perinuclear regions (PubMed:12829261) {ECO:0000250|UniProtKB:P04797, ECO:0000269|PubMed:12829261}

### KO-Validated Anti-GAPDH Mouse Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

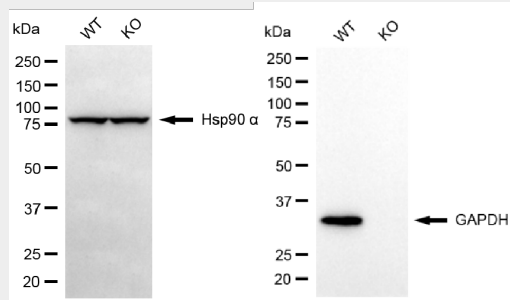
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### KO-Validated Anti-GAPDH Mouse Monoclonal Antibody - Images



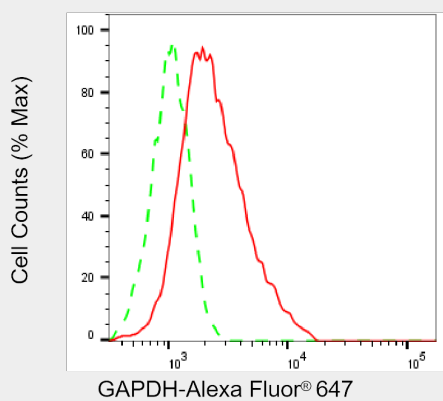
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Western blotting analysis using anti-GAPDH antibody (Cat#AGI2424). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-GAPDH antibody (Cat#AGI2424, 1:20,000) and HRP-conjugated goat anti-mouse secondary antibody respectively.



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Western blotting analysis using anti-GAPDH antibody (Cat#AGI2424). GAPDH expression in wild type (WT) and GAPDH knockout (KO) HSHC cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-GAPDH antibody (Cat#AGI2424, 1:20,000) and HRP-conjugated goat anti-mouse secondary antibody respectively.



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Flow cytometric analysis of GAPDH expression in HepG2 cells using anti-GAPDH antibody (Cat#AGI2424, 1:2,000). Green, isotype control; red, GAPDH.